

Remarks

The applicant respectfully requests reconsideration and allowance of the captioned application. Prior to the pending Office Action, claims 1-6 and 9-27 were pending. Claims 13-22 were allowed. In the present Reply to the pending Office Action, claims 1, 6 and 12 are amended, claims 4 and 23-27 are cancelled, and new claims 28-34 are added.

Claims 1 and 6 are clarified by amending “stiffening element” to “stiffening member.” The terms were inadvertently used interchangeably, and the amendment eliminates that confusion. Claim 12 is clarified by amending “a stiffening member” to “the stiffening member,” to correct for this inadvertent use of the indefinite article when referring to a previously introduced element. The further amendment of claim 1 is discussed below.

A. The Office Action objected to the drawings as not showing every feature of the invention specified in the claims. The five features identified in the Office Action are discussed as follows:

1) The first feature identified in the Office Action was “combination of the spacer elements and stiffening element forming a “Z” shaped member” in claim 1. That limitation has been deleted from claim 1 as presently amended. New claim 28 depends from claim 1 and is similar to the original dependent claim 8. New claim 28 requires the at least one stiffening member to be comprised of steel plates joined together into a generally “Z” shaped member, and is best illustrated in Figures 3 and 4. Stiffening member 18 comprises plates 19 and 20. *See e.g.* ¶33. *See also* ¶11 (“The high strength stiffening members, in a preferred embodiment, can be any typical structural member such as I-bars, Z-bars, or members created by the combination of

steel plates....”).

2) The second feature identified in the Office Action was “at least one stiffening element extends from near a base of the antenna tower to a height less than the height of the antenna tower” in claim 6. That limitation is best illustrated in Figure 2, with stiffening member 18 extending from near base 10a of the antenna tower to a point 10c that is less than the height of the tower.

3) The third feature identified in the Office Action was “three high strength stiffening members spaced equally apart on the circumference of the tower” in claim 9 and “two or more stiffening members spaced about the circumference of the tower” in claim 10. Those limitations are best illustrated in Figure 3, with three stiffening members 18 spaced equally apart around the circumference of tower 10.

4) The fourth feature identified in the Office Action was “stiffening member is a structural element comprising one or more structural plates welded together” in claim 11. That limitation is best illustrated in Figure 4. *See e.g.* ¶33 (“Typically, plates 19 and 20 will be welded together to form the desired shape (18) shown.”).

5) The fifth feature identified in the Office Action was “three stiffening elements having a first and second plate section spaced apart by a third plate” in claim 27. Claim 27 has been canceled, but new claims 29 and 34 require first and second plate section to be generally parallel, and require each to be joined to a third plate section so as to form a stiffening member with a generally “Z” shaped cross-section. Again, this is best illustrated in Figure 4.

B. The Office Action rejected claims 23-27 as being anticipated by Ryan. While the

applicant traverses those rejections for many of the same reasons discussed below in connection with other claims, those method claims are cancelled and other apparatus claims are added.

C. The Office Action rejected claims 1-6 and 9-12 as being rendered obvious by Ryan.

Independent claim 1 is amended to delete a limitation regarding a “Z” shape of the stiffening member. A “Z” shape limitation is included in new dependent claim 28. Dependent claim 4 is cancelled, and a limitation similar to that of the cancelled claim 4 is added to independent claim 1 requiring a spacer element to be attached to the tower by welding.

With respect to independent claim 1, Ryan definitely does not disclose or suggest attaching a spacer element to the antenna tower by welding. The Office Action identified Ryan adjustable mounting clamps 36 as the claimed spacers, and cites 1:42 as disclosing attachment of the spacers to the tower by welding. However, the captioned application discusses the advantages of welding the small spacer elements to the tower instead of the larger stiffening members. *See e.g.* ¶46. The spacer elements themselves do not achieve the strengthening of the tower that is achieved by the stiffening members. Ryan 1:42-45 is not discussing spacer elements, but is discussing “welding bar, angle or tubular steel sections” to the tower to increase the strength of the tower. Welding those strengthening steel sections to the tower is the very thing that the claimed spacer elements are intended to avoid. Ryan itself is not advocating welding those strengthening steel sections to the tower, but is listing that process among those to be obviated by the Ryan invention. Therefore, Ryan not only fails to disclose but also teaches away from welding its mounting clamps 36 (that the Office Action identified as the claimed spacer elements) to the tower. The Ryan mounting clamps 36 are secured to the tower utilizing

the interconnecting tightening means (or threaded rods) 40. *See e.g.* Ryan 7:27-30, 7:52-54.

For this reason alone, Ryan does not render claim 1 obvious and, consequently, also does not render obvious its dependent claims 2, 3, 5, 6, 9-12 and 28. There are additional reasons why various dependent claims are not rendered obvious by Ryan. The following are a few examples:

As discussed above, Ryan does not suggest a plurality of spacer elements being welded to the tower, as required by claim 5.

Claim 11 requires the stiffening member to comprise one or more structural plates welded together. Claim 12 requires one of those plates to be attached to a spacer element, and to be welded to another plate to form the stiffening member. The Office Action erroneously asserted that the Ryan support rod 32 is a structural element comprising “structural plates (42) welded together (Fig. 2)(Col. 6, Line 30)” and that “one of structural plates (42) is attached to at least one of the plurality of spacers (34).” First, the Ryan metal bracket plate 42 is part of the Ryan adjustable mounting clamps 34 or 36 (Ryan 6:24-25) that the Office Action identified as the claimed spacer element. The Ryan bracket plate 42 cannot simultaneously be both the claimed spacer element and the claimed stiffening member. Next, the welding mentioned at Ryan 6:30 is between the Ryan bracket plate 42 and the Ryan guide tube 38. It is not with the Ryan support rod 32 that the Office Action identified as the claimed stiffening member. The Ryan guide tubes 38 and support rods 32 are attached by “attaching members 54 which include threaded bolts, nuts and locking and spacing washers, or any other instrumentality which can be tightened....” (Ryan 7:9-11). They are not attached by welding. Ryan does not suggest welding together structural plates to comprise the stiffening member.

With respect to claim 28, Ryan definitely does not disclose or suggest a stiffening member comprising steel plates joined together into a generally “Z” shaped member. Ryan discloses only a plurality of structural tubes that are strapped to the antenna tower. The Office Action conceded that Ryan is silent about a “Z” shape, but asserted that it would have been obvious to modify Ryan for additional strength and resistance to deflection. First, it is not obvious that the “Z” shape is inherently stronger and more resistant to deflection than the structural tube shape actually disclosed in Ryan. If that is the basis for an obviousness rejection, then it is respectfully requested that a reference be provided in support of that proposition. If the rejection is based on the Examiner’s personal knowledge, then an affidavit is requested as provided by 37 C.F.R. §1.104(d)(2). Second, Ryan teaches away from a modification of its structural tube shape to a “Z” shape. The Ryan “guide tube 38 should fit snugly within the interior dimension of the reinforcement rod 32 without excessive movement or play.” (Ryan 6:45-47). This makes sense with the Ryan structural tube shape support rods, but is totally inconsistent with a “Z” shape stiffening member as required by claim 28.

D. New independent claim 29 (and its new dependent claims 30 and 31) include limitations relating to the generally “Z” shaped cross-section of the stiffening member, and are patentable over Ryan for the reasons discussed with respect to claim 28.

E. New independent claim 32 (and its new dependent claims 33 and 34) include limitations relating to a shell attached to the stiffening member and having a cross-sectional shape similar to that of the antenna tower and having a larger cross-section than the antenna at any height of the shell. Ryan does not disclose or suggest the claimed shell. The Office Action

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Amendment B

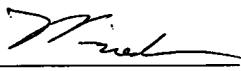
erroneously identified the Ryan sides 24 of the antenna tower as the claimed shell. (Ryan Figure 3 shows twelve sides 24. Ryan 6:18-19.) However, the claimed shell cannot be the antenna tower, and claims 32-34 are patentable over Ryan.

The Applicant submits that the application is in condition for allowance, and requests reconsideration and allowance. Should the Examiner believe that a telephone interview would expedite prosecution of the present application, the applicant requests the Examiner to call the undersigned at the below-listed telephone number.

Respectfully submitted,

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